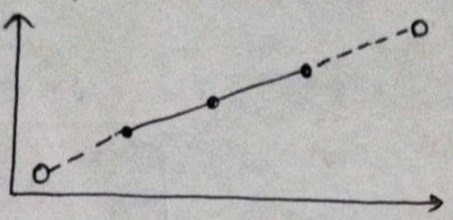
EXTRAPOLATION AND INTERPOLATION

Extrapolation →

Extrapolation is a way to make guesses about the future or about some hypothetical situations based on data we already known. We basically taking "best guesses". For example, let's say pay increases average $200 per year. We can extrapolate and say that in 10 years, we should be $2,000 higher than today.



Interpolation →

Interpolation allow us to estimate within a dataset, it is a tool go beyond the data. It comes with high degree of uncertainity. For example, let's say we measure how many customers we get every day for a week: 200, 370, 120, 310, 150, 70, 90. According to this number we should get just under 10 customers (1310 customers / 168 hours in a week). Let say we staff our business 24-7 to deal with thoose hourly customers. We probably going to get zero customers at night and on weekends, therefore wasting resource.

Uses in Statistics —

1) We use equations to fit the data. We then use the equation to make conjectures. (In case of regression / cure fitting).

→ Prediction more specifically predictive modelling is a technique based on statistical modelling to essentially compute the estimates that we get via extrapolation. Likewise it provides confidence bands of estimated values.

→ Interpolation means to estimate something that lies between the observations. Extrapolation means to extend a set of observations to some further point.

→ Interpolation and extrapolation both try to extend what we observed - to what we have not observed but do so in different directions or modes. Interpolation extends to what must have happened between observations, while extrapolation extends to what happens before, after or beyond observations.